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|--|-------------|-------------------------|---------------------|------------------|
| 09/941,295   | 08/28/2001  | Christopher J. Bradford | IN-5519             | 5838             |
| 26922  | 7590        | 02/23/2004              | EXAMINER            |                  |
| BASF CORPORATION<br>ANNE GERRY SABOURIN<br>26701 TELEGRAPH ROAD<br>SOUTHFIELD, MI 48034-2442 |             |                         | MCLENDON, SANZA L   |                  |
|  |             |                         | ART UNIT            | PAPER NUMBER     |
|  |             |                         | 1711                |                  |
| DATE MAILED: 02/23/2004  |             |                         |                     |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/941,295

Applicant(s)

BRADFORD ET AL.

Examiner

Sanza L McClendon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/01&3;6;8;10/03.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

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DETAILED ACTION

*Election/Restrictions*

1. The restriction requirement imposed by Examiner Fletcher with election to claims 1-19 and agreed on by Michael Morgan on 1/22/2004 has been withdrawn and accordingly all claims will be examined.

*Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1, 8, 10-15, 20-22, and 25-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1, 21-22, and 26-29 contain the abbreviation "UV" which should be replaced with "ultraviolet" because the abbreviation renders the claim indefinite. Claim 19 is rendered indefinite by the use of the abbreviations "SMC" and "BMC". With regards to claims 20 and 26-28, said claims recite a method of making a coated substrate but fails to set forth how said coating is obtained for the composition applied to the substrate. A method step for curing the uncured composition must be set forth to provide a "coated substrate". If not, the claims set forth a substrate having an uncured coating composition thereon, unless this is applicant's intent. Clarification is requested. In claim 26, it is unclear what applicant intends to add to the method of claim 20 because claim 20 already includes applying a coating composition to a substrate. Is applicant intending to apply multiple coats of the same compositions or apply topcoats of a different composition to provide for a top coated or multi-coated substrate? Clarification is requested. With regards to claim 27, it is unclear how a coated substrate of claim 26 can be with a base coating composition. How is it possible to apply a basecoat composition after applying and curing composition of said claims thereon? Clarification is

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requested. With regards to claim 28, it is unclear what applicant is intending to add to the method of claims 26. Claim 26 via claim 20 already includes applying a coating composition to a substrate and exposing it to UV and thermal energies to provide for a cured coating on the substrate, which appears to be a clear coating (applicant has not specified otherwise and the claims broadly read on clear coatings). Does applicant intend to set for a method of overcoating by applying a second clear coating composition to the coated substrate and curing said second composition to provide for a second cured clear coating on the substrate over the coating composition of claim 1. Claims 8 and 10-15 recites the limitation "(a12)" in lines 2. There is insufficient antecedent basis for this limitation in the claim. With regard to claim 15, it is unclear how the NCO to NCO-reactive groups can have a ratio with an upper limit of 1.00 when the parent claim 14 limits the upper limit to less than 1.00. Correction/Clarification is requested.

*Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 5-8, 10-11, 19-22, 26, and 28-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Sirkoch et al (4,634,602).

Sirkoch et al teaches primer compositions. Said composition comprises a compound having ethylenic unsaturation and at least one moiety such as a urea or urethane, which preferably is a urethane diacrylate, a radiation insensitive compound and a crosslinking agent reactive with hydroxyl groups present in said radiation insensitive compound. Said urethane diacrylate anticipates applicant's (a1) component. Per examples for the preparation of urethane acrylates, Sirkoch et al teaches that the reaction components are

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reacted until the infrared spectrum analysis of the charge indicates that substantially all the isocyanate groups are reacted—see column 12, lines 38-39. The examiner deems that the NCO to NCO-reactive groups is less than 1.30. Per example 1, Sirkoch et al teaches preparing a hydroxyl containing polyurethane diacrylate that is useful as a component in the invention. This anticipates claim 19. The radiation insensitive compound can be an epoxy resin, phenoxy resin, or mixtures thereof, wherein both types comprise hydroxyl equivalent weight of between 200 to about 1500—see column 7, lines 45-48. This anticipates claims 6-8, 10. Per example 10, Sirkoch et al teaches using a radiation insensitive hydroxyl-containing compound having a polydispersity of less than 4.00 (from the peak weight average molecular weight of 51,726/ the number average molecular weight of 16,679 to give a polydispersity of 3.10). This anticipates claims 1-3. The crosslinking agent reactive with the hydroxyl groups of the radiation insensitive compound can be an aminoplast resin, a block isocyanate, or mixtures thereof. Said blocked isocyanates taught by Sirkoch et al have at least two isocyanate groups per molecule. This anticipates claim 5. Sirkoch et al teaches partially curing the primer composition with radiation (ultraviolet) and further curing with thermal energy to provide for a coated substrate. This anticipates claims 20-22. Per examples 5C, 6, and 7B and column 10, lines 60-63, Sirkoch et al teaches applying a topcoat composition to the partially UV cured primer composition of the invention and then further thermally curing the composite. This anticipates claims 28 and 30. Sirkoch et al is deemed to anticipate claim 29 because Sirkoch et al teaches a composition that is deemed to anticipate the instantly claimed invention, therefore it should inherently be substantially free of surface defects from vaporous substrate emissions once cured.

6. Claims 1-30 are rejected under 35 U.S.C. 102(b) as being anticipated by DE 99 141 (translation sent by applicant).

DE '141 teaches thermally and actinic curable compositions useful for coating plastic substrates, in addition to SMC's and BMC's. This anticipates claims 23-25. Said compositions comprises (a1) at least one component (a1) with (a11) at least two functional groups curable by actinic radiation and, optionally, (a12) at least one functional groups curable/crosslinkable by thermal energy with a functional groups (a22) in component (a2); and ((a2) at least one component (a2) having (a21) at least two functional groups crosslinkable

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by actinic radiation and, optionally, (a22) at least one functional group that can enter into thermal crosslinking reactions with a functional group (a12) in component (a1); (a3) a photoinitiator; (a4) a thermal crosslinking initiator; (a5) at least one reactive diluent curable by actinic radiation and/or is thermally curable; (a6) at least one coating additive; and/or (a7) at least one thermally curable component, wherein the coating composition is comprised of at least one thermally curable component (a7) if component (a1) does not have functional group (a12). Component (a1) of De' 141 corresponds to instantly claimed component (a1), component (a2) corresponds to instantly claimed component (a3), and component (a7) and (a5) correspond to instantly claimed component (a2), wherein DE '141 teaches the same trademarked materials as disclosed by the instantly claimed invention. Suitable compounds for (a1) can be found on pages 10 and 12, wherein urethane methacrylate and phosphazene acrylates are taught making (a11) acrylate and/or methacrylate groups and, if present (a12) are preferably hydroxyl groups. Suitable compounds for (a2) are found on pages 12-13, wherein it is preferable for said compound to have at least three radiation curable functional groups (a21) and at least three thermally crosslinkable groups (a22), such as isocyanate groups. (A3) and (a4) can be found on pages 13-14. Suitable compounds for (a5) are oligomeric polyol that can be found on pages 14-16, wherein said polyester polyols are taught and oligomeric polyols have a polydispersity ratio from 1.1 to 1.5. Said coating additives (a6) can be found on pages 17-18. Suitable components for (a7) can be found on pages 18-24, wherein polyesters, epoxide resins and acrylate polymers are taught. In addition, it is taught that component (a7) can be thermal crosslinkers. DE' 141 teaches it is advantages to have a hydroxyl group to isocyanate group ratio in the range from 0.5:1 to 2:1. This is deemed to anticipate the ratios found in claims 11-15. Per example, DE '141 teaches combining a urethane acrylate with no free isocyanate groups, a polyester polyol (Desmophen), a photoinitiator, customary coating additives, and an acrylate having free isocyanate and acrylate groups, wherein the urethane acrylate anticipates instantly claimed (a1), the polyester polyol anticipates instantly claims (a2), and the acrylate having free isocyanate groups anticipates instantly claimed (a3), in addition to anticipating claims 5-10 and claims 16-19. Said coating composition can be used as a primer coating applied in one or more layers or said coating can be used as a clear coating applied in one or more layer, wherein both once applied can be cured by subjecting to a radiation step followed by a

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thermal curing step—see pages 25-26. This anticipates claims 20-22 and 26-28, wherein claim 27 is anticipated when more than one coating composition is applied to said substrates. Said coating compositions once cured are free from microbubbling and blistering such that the surfaces are smooth and defect-free. This anticipates claims 29-30.

*Claim Rejections - 35 USC § 103*

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE Patent 00 333 (translation supplied by applicant).

DE '333 teaches coating microporous surfaces, such as plastics, fiber re-enforced plastics, SMC's and BMC's, with coating compositions curable both thermally and by radiation. Said coating compositions comprise (a1) at least one compound, such as a urethane acrylate, having (a11) at least two functional groups crosslinkable by radiation, such as acrylates and, optionally, at least one functional group that undergoes thermal crosslinking with functional groups (a22), such as hydroxyl groups; (a2) at least one compound, such as an isocyanate acrylate, having (a21) at least two functional groups, such as acrylates, for radiation crosslinking and (a22) at least one functional groups, such as isocyanates, that undergo thermal crosslinking with functional groups (a12) in (a1); (a3) at least one photoinitiator; (a4) at least one thermal crosslinking initiator; (a5) at least one reactive diluent curable thermally and/or by radiation; (a6) at least one coating additive; and/or (a7) at least one thermally curable component, such that (a7) is present if (a1) has no functional groups (a12). Component (a1) of DE' 333 corresponds to instantly claimed

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component (a1); component (a2) corresponds to instantly claimed component (a3), and component (a7) corresponds to instantly claimed component (a2). The same trademarked materials are employed as disclosed in the instantly claimed invention.

DE '333 does not teach the required ratio of isocyanate groups to isocyanate-reactive groups in the disclosed compositions, however, it would have been obvious to an artisan of ordinary skill in the art at the time of the invention to determine the ratio required. The motivation would have been to obtain the extent of crosslinking desired for a particular application since chemical crosslinking of isocyanate groups to isocyanate-reactive groups and the effects are well known in the art. DE '333 does not mention to polydispersity of component (a7), however, it would have been obvious for a skilled artisan at the time of the invention to select thermally curable binder components having said features in order to avoid yellowing upon radiation and to control the amount of crosslinking upon curing in the absence of evidence to the contrary.

### *Double Patenting*

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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10. Claims 1-15 and 19-30 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 and 14-25 of copending Application No. 09/940,748. Although the conflicting claims are not identical, they are not patentably distinct from each other because components a1, a2, and a3 as recited in claim 1 of 09/940,748 can be the same components a1, a2, and a3 in the instant application. Component a1 comprising at least two radiation activatable functional groups in 09/940,748 comprises components also containing one or more isocyanate reactive functional groups, as set forth by the claim 1 of 09/940,748 and claim 19 in the instant application. Component a3 as defined in claim 1 of 09/940,748 corresponds to component a3 as set forth in claim 5 and claim 1 of the instant application. Component a2 as defined in claims 1, 6-7, and 11-12 of 09/940,748 corresponds to component a2 as set forth in claims 1, 7, and 10 of the instant application. Also claims 1-5 of 09/940,748 set forth ratios of NCO groups to NCO-reactive groups in components of the composition that corresponds to the ratios set forth in the claims of the instant application. It would have been obvious at the time of the instant invention to provide a composition comprising components a1, a2, a3 as set forth in 09/940,748 corresponding to the compositions set forth in the instant claim application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

11. Claims 1-19 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 4-21 of copending Application No. 09/941,283. Although the conflicting claims are not identical, they are not patentably distinct from each other because components a1, a2, and a3 as recited in claim 1 of 09/941,283 can be the same components a1, a2, and a3 of the instant application. Component a1 comprising at least two radiations activatable by radiation functional groups in 09/941,283 comprises components also containing one or more isocyanate reactive functional groups as set forth in claim 8 and in claim 1 of the instant application. Component a3 as defined in claims 1 and 10 of 09/941,283 corresponds to component a3 as set forth in claim 1 by the instant application. Component a2 as defined in claims 1, 7, and 10 of 09/941,283 provides for component a2 as set forth in claim 1 of the instant application. Claims 11-14 of 09/941,283 sets forth ratios of NCO groups to NCO-reactive groups in the component of the

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composition that correspond to the ratios set forth in the claims of the instant application. Claims 18-21 of 09/941,283 set forth polydispersities for component a2 that correspond to the polydispersities set forth in the instant application. Additionally claims 16-17 of 09/941,283 establishes the aromatic moieties present/absent in component a2 that corresponds to the aromatic moieties present/absent in the instant application. It would have been obvious at the time of the instant invention to provide a composition comprising components a1, a2, a3 as set forth in 09/09/941,283 corresponding to the compositions set forth in the instantly claim application

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

12. Claims 1-30 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-30 of copending Application No. 09/941,118. Although the conflicting claims are not identical, they are not patentably distinct from each other because components a1, a2, a3 as recited in claims 1 of 09/941,118 can be the same components a1, a2, and a3 of the instant application. Component a1 comprising at least two radiation activatable functional groups in application 09/941,118 comprises components also containing one or more isocyanate reactive functional groups as set forth in claim 6 of 09/941,118 and in claims 1 and 19 of the instant application. Component a3 as defined in claims 1 and 4 of 09/941,118 corresponds to component a3 as set forth in claims 1 and 5 of the instant application. Component a2 as defined in claims 1, 5, 7-12 of 09/941,118 provide for component a2 as set forth in claims 1-4, and 6-10 of the instant application. Claims 15-18 of 09/941,118 sets forth ratios of NCO groups to NCO reactive groups in the components of the compositions that correspond to the ratios set forth in the claims of the instant application. Claims 1-3 of 09/941,118 establishes the amount aromatic moieties absent/present in component a2 that corresponds to the amount of aromatic moieties present/absent in the instant application. Claims 7-10 of 09/941,118 sets forth polydispersities for a2 that corresponds to the polydispersities set forth in the claims of the instant application. Additionally, claims 20-30 of 09/941,118 establishes a method of coating a substrate with the composition comprising a1, a2, and a3 that corresponds to the method of coating a substrate in the claims of the instant application. It would have been

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obvious at the time of the instant invention to provide a composition comprising components a1, a2, a3 as set forth in 09/941,118 corresponding to the compositions set forth in the instantly claim application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

*Conclusion*

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L McClendon whose telephone number is (571) 272-1074. The examiner can normally be reached on Monday through Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

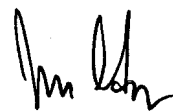
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Sanza L McClendon

Examiner

Art Unit 1711

SMc

  
James J. Seidleck  
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